AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A storage medium, comprising:

a metallic underlayer;

a ferroelectric data layer over said metallic underlayer, said ferroelectric data layer serving as a layer for storing information as bits defined by a sign of polarization of ~~polarized~~ domains ~~on~~ within said ferroelectric data layer, each polarized domain comprising a localized region of bound charge and including an area of bound charge on and adjacent to a surface of said ferroelectric data layer; and

a layer over said ferroelectric data layer having a charge migration rate faster than a charge migration rate of said ferroelectric data layer, said layer over said ferroelectric data layer providing an in-plane charge dissipation of mobile surface charges on said ferroelectric data layer surface without screening said polarized domains.

2-5. (Canceled)

6. (Currently amended) The storage medium of claim 1, wherein said layer over said ferroelectric data layer comprises a conducting layer and a thickness of said conducting layer is within a range of approximately ~~5~~ 4 Å to approximately 25 Å.

7. (Original) The storage medium of claim 1, wherein said metallic underlayer comprises $SrRuO_3$.

8. (Original) The storage medium of claim 1, wherein said ferroelectric data layer comprises at least one of:

PZT ($Pb(Zr_x Ti_{1-x})O_3$);

SBT ($SrBi_2Ta_2O_9$);

$BaMgF_4$;

STN ($Sr_2(Ta_{1-x} Nb_x)_2O_7$); and

NFM (COVA).

9. (Previously Presented) The storage medium of claim 1, wherein said layer over said ferroelectric data layer comprises a conducting layer and a thickness of said conducting layer is approximately 15 Å.

10. (Withdrawn, Currently Amended) ~~A memory~~ An information storage apparatus, comprising:

a support mechanism to support and move a ferroelectric storage medium, said ferroelectric storage medium comprising a metallic underlayer, a ferroelectric data layer over said metallic underlayer, and a layer over said ferroelectric layer having a charge migration rate faster than a charge migration rate of said ferroelectric data layer, said ferroelectric data layer serving as a layer for storing bit information as polarized domains ~~on~~ within said ferroelectric layer, each said polarized domain comprising a localized region of bound charge, including an area of bound charge on and adjacent to a surface of said ferroelectric data layer, said layer over said ferroelectric data layer providing an in-plane dissipation of mobile charges on said surface of said ferroelectric data layer without screening said polarized domains.

11. (Withdrawn, Currently amended) The ~~memory~~ information storage apparatus of claim 10, further comprising:

a read/write head for accessing information stored in said polarized domains in said ferroelectric storage medium and for writing information to be stored ~~into~~ as said polarized domains in said ferroelectric storage medium.

12. (Withdrawn, Currently Amended) The ~~memory~~ information storage apparatus of claim 11, wherein said read/write head includes an electrometric sensor for reading information from said ferroelectric storage medium.

13. (Withdrawn, Currently Amended) The ~~memory~~ information storage apparatus of claim 12, wherein said electrometric sensor comprises:

an open-gate finFET.

14. (Withdrawn, Currently amended) The ~~memory~~ information storage apparatus of claim 12, wherein said ~~electrometric sensor~~ read/write head comprises a plurality of electrometric sensing elements as read elements for reading data and a plurality of write elements for writing data,

said plurality of ~~electrometric sensing~~ read elements and said plurality of write elements being arranged linearly in at least one dimension to increase a speed of data transfer.

15. (Withdrawn, Currently amended) The ~~memory~~ information storage apparatus of claim 14, wherein said plurality of ~~electrometric sensing~~ read elements and said plurality of write elements are arranged in an x-axis dimension and in a y-axis dimension.

16. (Currently Amended) A method of manufacturing a storage medium, said method comprising:

applying a layer of ferroelectric material over a metallic underlayer, said ferroelectric data layer serving as a layer for storing bit information as polarized domains ~~in~~ within said ferroelectric material layer, each said polarized domain comprising a region of bound charge and including an area of bound charge on and adjacent to a surface of said ferroelectric data layer; and

applying a layer of ~~conducting~~ conductive material over said ferroelectric layer~~, wherein said ferroelectric data layer serves as a layer for storing information as polarized domains on a surface of said ferroelectric data layer~~ that provides an in-plane charge dissipation mechanism of mobile charges on said surface of said ferroelectric layer without screening said polarized domains.

17-18. (Canceled)

19. (Previously presented) The method of claim 16, wherein a thickness of said conducting layer is approximately 15 Å.

20. (Original) The method of claim 16, wherein said metallic underlayer comprises $SrRuO_3$.

21. (Previously Presented) The storage medium of claim 1, wherein said polarized domains terminate at said top surface of said ferroelectric data layer.

22. (Previously Presented) The storage medium of claim 1, wherein said polarized domains are oriented as being substantially normal to said top surface.

23. (Previously presented) The storage medium of claim 1, wherein said information is stored as bits of information, each bit comprising a polarized domain within said ferroelectric data layer that is terminated at said top surface as an area of bound charge on said top surface, said bound charge having one of a positive sign and a negative sign, depending upon an information content of said polarized domain.

24. (Previously presented) The storage medium of claim 1, wherein said layer over said ferroelectric data layer comprises silicon.

25. (Previously presented) The storage medium of claim 1, wherein said charge migration time in said layer over said ferroelectric data layer is less than 10^{-10} second.

26. (Currently amended) The storage medium of claim 1, wherein said layer over said ferroelectric data layer directly contacts a top surface of said ferroelectric data layer to protect against a slow surface depolarization of said ~~polarized domains~~ ferroelectric data layer.

27. (New - Withdrawn) The information storage apparatus of claim 14, wherein a plurality of elements of said read/write head are selectively active simultaneously, thereby providing a plurality of tracks simultaneously available for read/write.